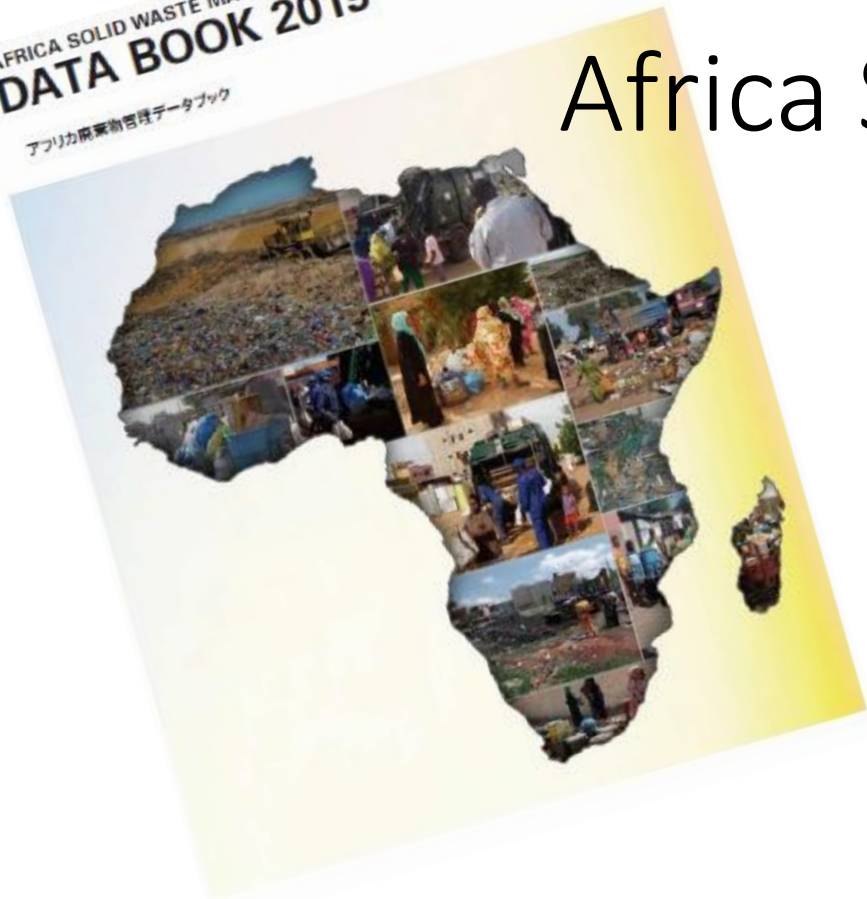


AFRICA SOLID WASTE MANAGEMENT  
DATA BOOK 2019  
アフリカ廃棄物管理データブック



# Africa Solid Waste Management Data Book 2019

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# Background

- The ACCP began with TICAD VI held in Nairobi, Kenya in August 2016. The participants agreed to establish a platform for supporting and promoting SWM in Africa.
- At the Preparatory Meeting for Establishing ACCP in Maputo, Mozambique in April 2017, participants confirmed their common understanding of the need to comprehend the present situation and analyse waste management problems in each country and each city.

## *Objectives of ACCP*

*(1) Knowledge sharing and networking*

*(2) Promotion of SDGs targets on waste management*

*(3) Promotion of investment in waste management*

# Data Collection Process

- Data and information were basically provided by the Focal Points (FP).
- Web questionnaires before the meeting in Rabat, Morocco, in June 2018.
- Site surveys in Ethiopia, Democratic Republic of the Congo, Madagascar, Djibouti and Zambia.
- Some FPs prepared their profiles by themselves.



Questionnaire on personnel in charge of municipal solid waste management in the country

1. About You and Your Institution

1.1 About yourself

1.1.1 What is your name?

\* Mr. / Ms. / Dr.

\* First Name: \_\_\_\_\_

\* Middle Name: \_\_\_\_\_

\* Last Name: \_\_\_\_\_

1.1.2 Which organization do you belong to?

\* Name of Organization: \_\_\_\_\_

\* eg: Ministry of Environment

\* Which department or section? \_\_\_\_\_

\* eg: Department of Pollution Control, etc. (section, DDT unit)

1.1.3 What is your position in the above organization?

\* eg: Director, chief, etc.

1.2 About Your Institution

1.2.1 Responsibilities and Duties

\* 1.2.1(1)-1 What are the responsibility of your section or department? Please list all \_\_\_\_\_

\* eg: Waste management, air pollution control, and national park/forest management

\* 1.2.1(2)-1 Do you communicate with local governments for implementing laws? Please list all \_\_\_\_\_

\* a) No. / b) Yes, for \_\_\_\_\_

\* If "Yes, for", please go to 1.2.1(2)-2

\* 1.2.1(2)-2 (please specify)

\* conveying laws/regulations

\* providing instruction through \_\_\_\_\_

\* providing technical \_\_\_\_\_

# Country Profile and City Profile

- Basic information on waste management in 29 countries and 41 cities are succinctly summarised in a common form.
- It will help readers to easily understand the overview of waste management in each country and city, and to compare the differences in situation between the countries and the cities.

## *Structure of the Profiles*

### *Outline (of the country/city)*

#### *Basic information*

- *Population, GDP, etc.*

#### *Current SWM Situation*

- *Institutional System*
  - *Legal system*
  - *Policy/plan*
  - *Implementation system*
- *Technical System*
  - *Waste generation & characteristics*
  - *Storage and discharge, etc.*
- *Financial System*
- *Environmental and Social Considerations*
- *Donor Support*
- *Areas for improvement*

# Content of the Data Book

- Chapter 1 introduces the purpose and structure of this book.
- Chapter 2 identifies unique waste issues facing Africa in the present and future.
- Chapter 3 describes the current status of waste management in Africa based on information provided by ACCP member countries/cities.
- Chapter 4 organises the issues raised in Chapter 3 from the viewpoint of capacity development, and discusses the expected roles and contributions of the ACCP in addressing those issues.
- The Annex presents the current SWM situation in each country and city.

## *Main Text*

- *Current situation in ACCP member countries and cities*
- *Recommendations for improving SWM in Africa*



## *ANNEX*

- *Country Profiles (29 countries)*
- *City Profiles (41 cities)*

# Half of the waste left in the cities



- The collection rate in Africa is estimated at around 50% on average, but this varies between countries, cities, and even within a single city.
- In many cities, the operating rate of collection equipment is roughly 50%.
- Only a limited number of cities know their collection rates based on quantitative data.

# Improperly managed transfer points become nuisances



- In some cities, a large number of small-scale transfer stations have been set up for primary collection, which is performed manually or by donkey.
- Transfer points or containers enable flexible primary collection. However, they can easily become a nuisance in the city if not managed properly.

# Inadequate collection and transport impair people's health and the beauty of the city



- Regardless of the city size, it is common to see waste strewn on the streets in Africa, or scattered around overflowing waste collection containers. Areas not covered by public services, such as back alleys and vacant land, are also common sites for the dumping of illegal waste.



# Final disposal sites need to be improved

- Even among large cities with major economies and populations, only a few have several disposal sites.
- There is no clear correlation between economic level and development state of disposal sites. International cooperation seems to be a more significant factor than the economic level.
- There is a trend underway of introducing sanitary landfills. However, there is room for improvement in their operation.

Country	City	GNI per capita	Type of landfill	Type of operation
Malawi	Blantyre	320	Controlled	-
Niger	Niamey	360	Open dump	-
Central African Republic	Bangui	390	-	-
South Sudan	Juba	390	Controlled	Soil cover
Madagascar	Antananarivo	400	Controlled	Compaction
Mozambique	Maputo	420	Sanitary landfill	Compaction
DR Congo	Kinshasa	460	Sanitary landfill	Compaction
Burkina Faso	Ouagadougou	590	Sanitary landfill	Compaction
Liberia	Monrovia	620	Sanitary landfill	Soil cover
Ethiopia	Addis Ababa	740	Open dump	Compaction
Guinea	Conakry	790	Open dump	-
Zimbabwe	Harare	1170	Controlled	Soil cover
Lesotho	Maseru	1210	Open dump	-
Zambia	Lusaka	1290	Sanitary landfill	Compaction
Zimbabwe	Bulawayo	1290	Sanitary landfill	Soil cover
Cameroon	Yaoundé	1370	Sanitary landfill	Compaction
Congo Republic	Brazzaville	1430	Open dump	-
Kenya	Kiambu	1460	Open dump	Compaction
Kenya	Nairobi	1460	Open dump	-
Côte d'Ivoire	Abidjan	1580	-	-
Djibouti	Djibouti	1880	Sanitary landfill	Compaction
Ghana	Tema	1880	Sanitary landfill	Soil cover
Nigeria	Abuja	2100	Controlled	Compaction
Nigeria	Kaduna	2100	Open dump	-
Sudan	Khartoum	2380	Open dump	Soil cover
Eswatini	Mbabane	2950	-	-
Egypt	Alexandria	3010	Sanitary landfill	Soil cover
Namibia	Windhoek	4570	Sanitary landfill	Soil cover
Botswana	Kweneng	6730	Sanitary landfill	Soil cover

GNI per capita, World Bank Atlas method, current USD, 2017

# Improper waste disposal degrades the environment

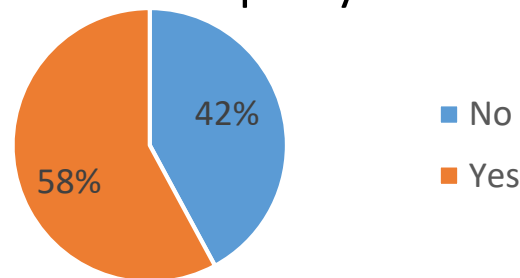


- Even when collected, waste is improperly disposed of in many cities. At least 70% of waste in Sub-Saharan Africa is disposed of in open dump sites.
- Contamination of surface and ground water from leachate; offensive odours and fires; methane (GHG); collapse of waste mountains leading to the loss of many lives.

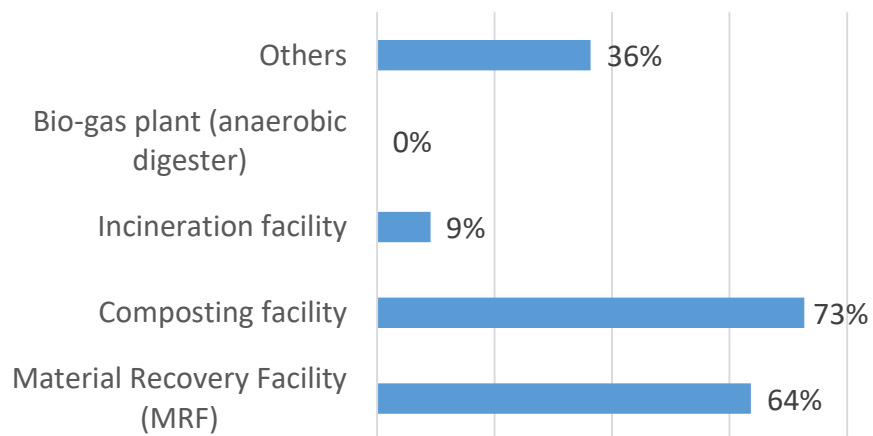
Month/Year	City/Country	Number of victims	Cause of accident
September 2016	Cotonou, Benin	Over 100	Fire
March 2017	Addis Ababa, Ethiopia	115	Collapse
August 2017	Conakry, Guinea	9	Collapse
February 2018	Maputo, Mozambique	16	Collapse

# More than half of the cities are working on recycling

- Are there recycling/treatment facilities in your municipality?



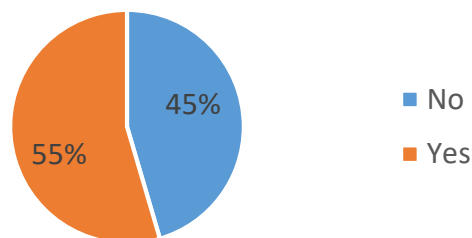
- What type of recycling facilities?



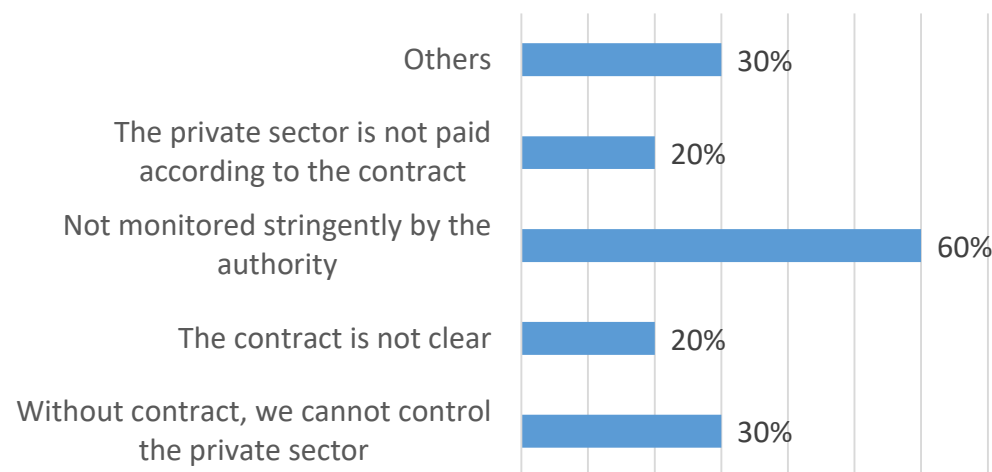
- More than half of the cities that responded to the web questionnaire (58%, 19 valid responses) answered that they possess recycling facilities.
- The primary facilities are Material Recovery Facilities (MRF) and composting facilities.

# Private sector participation in the solid waste services is widespread

- Do you think that the private sector works well?



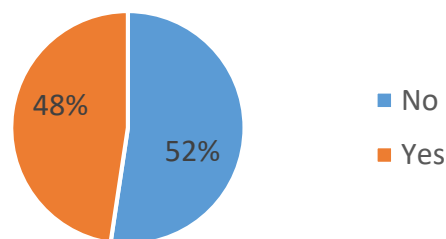
- If "No", why does the private sector NOT work well?



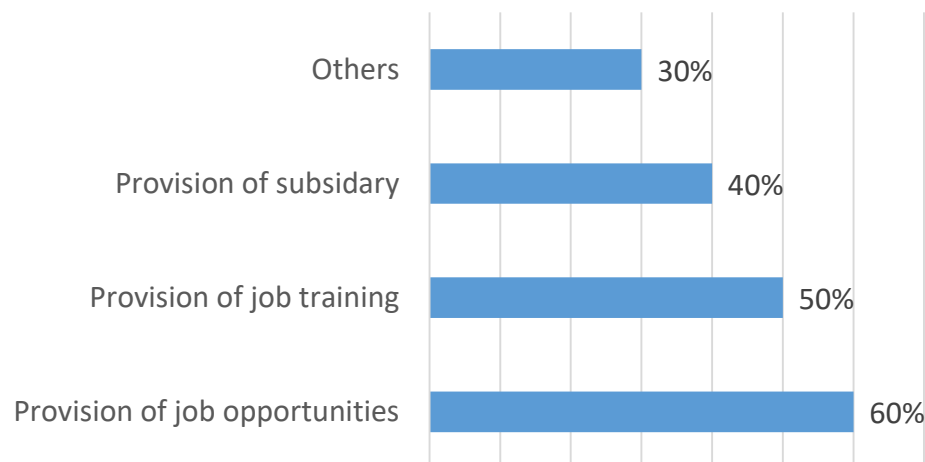
- Private entities are involved in waste services in nearly all cities that responded to the web questionnaire (95%, 22 valid responses). However, they do not necessarily uphold appropriate standards of service.
- In many cities (95%, 22 valid responses), municipal authorities provide waste services directly in spite of the involvement of the private sector in those services.

# Half of the cities are supporting the informal sector

- Is there any policy for supporting the informal sector?



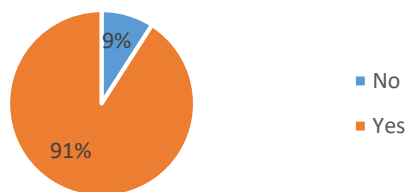
- What kind of policy do you have for supporting the informal sector?



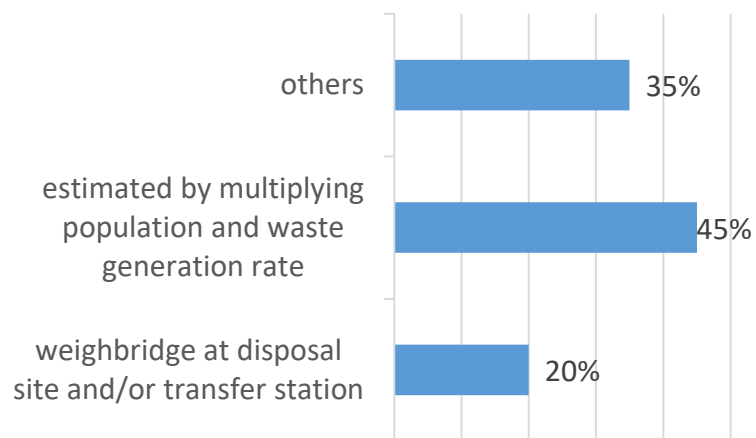
- The informal sector is active in nearly all cities, and half of the cities (48%, 21 valid responses) provide employment opportunities, vocational training, and economic assistance.

# Issues that require attention: waste generation amount

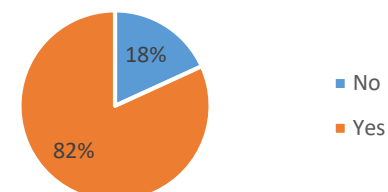
- Do you know how much waste your municipality generates?



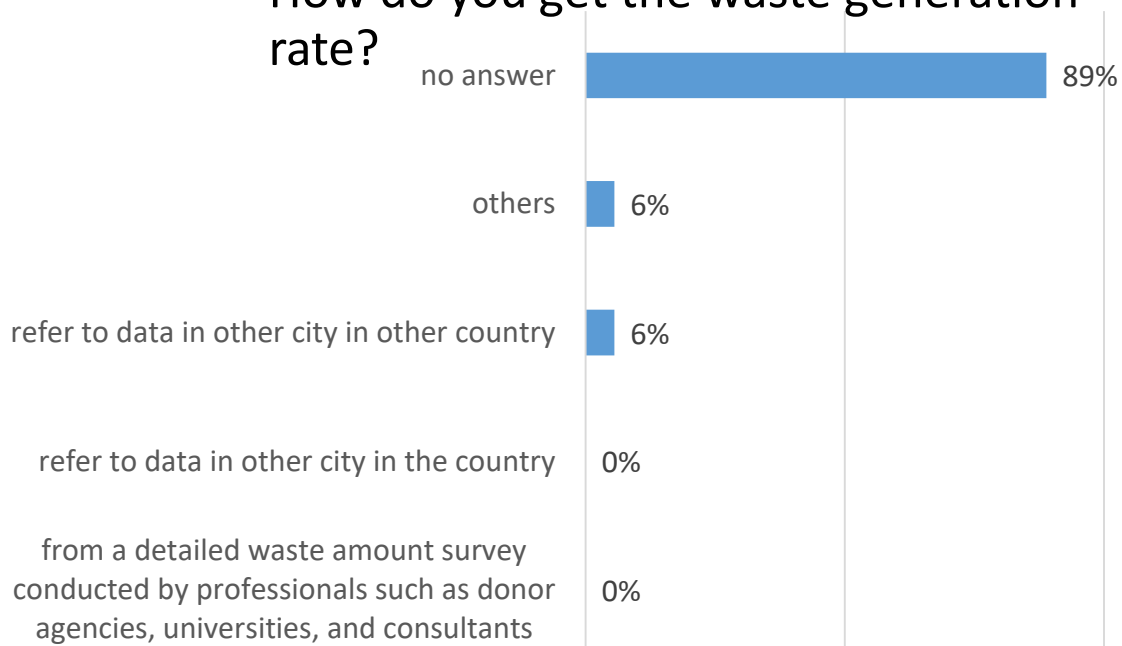
- How do you get the data?



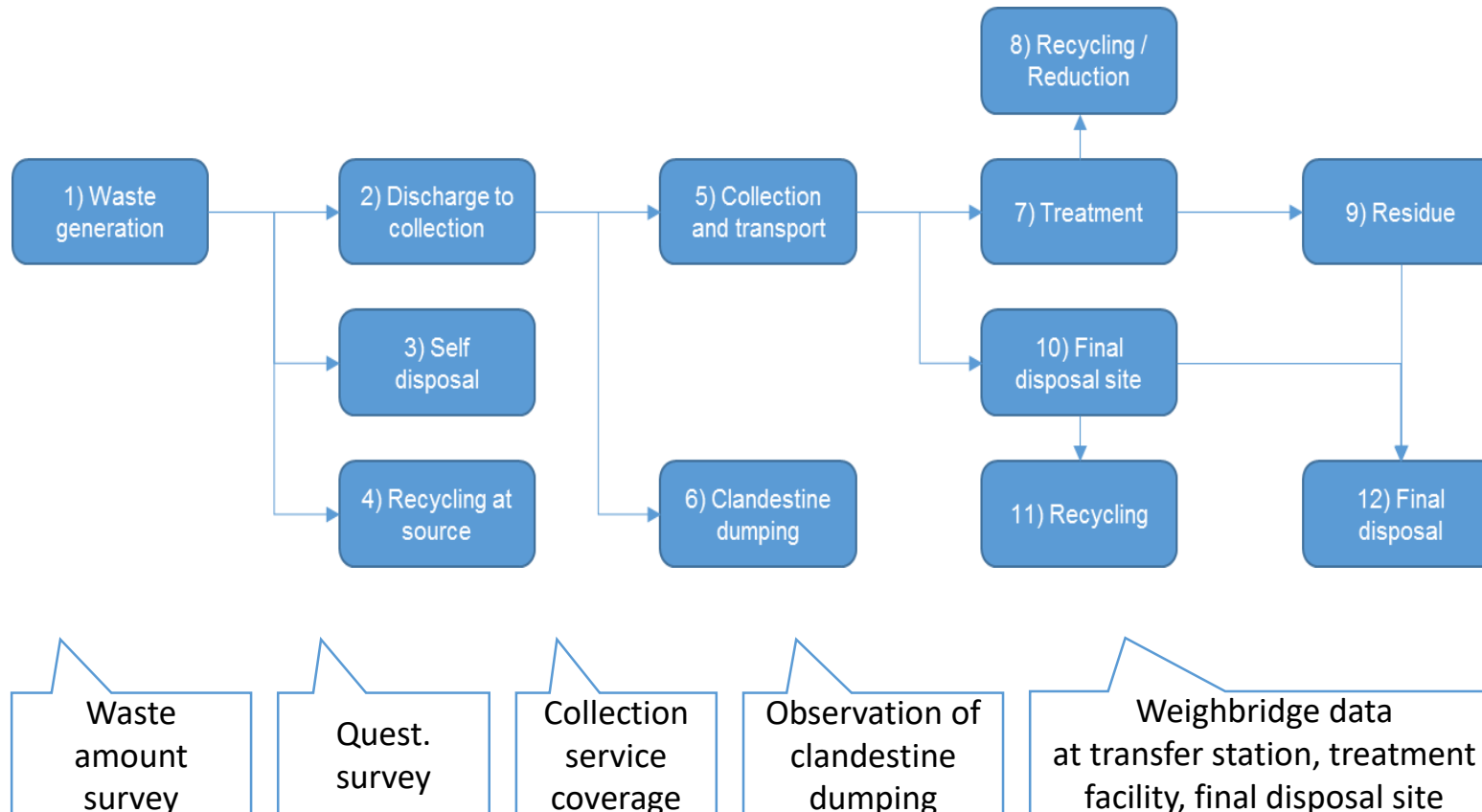
- Do you know the waste generation rate in your municipality?



- How do you get the waste generation rate?



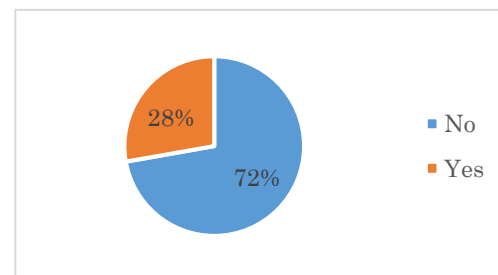
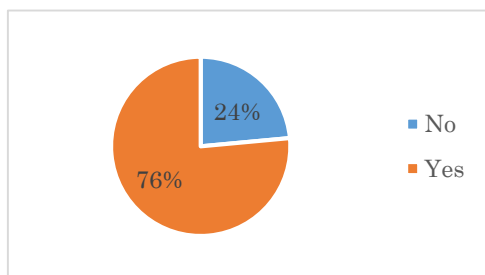
# How do we estimate the total amount of municipal waste?



- Total amount of waste generated is obtained by estimation rather than direct measurement.
- The typical method for estimating the amount generated is to measure directly or estimate waste amount at each stage of the waste flow, then, to incorporate those amounts into the waste flow.
- “This process makes us understand the waste flow in our cities.”

# Issues that require attention: link between expenditure data and waste data

- Do you know how much is spent for waste services?
- Do you know how much is spent per ton of waste?



Standard Expenses for Solid Waste Management Services

Service	Low-income countries	Lower-middle income countries	Upper-middle income countries	High income countries
Collection and transfer	20-50	30-75	50-100	90-200
Controlled landfill to sanitary landfill	10-20	15-40	20-65	40-100
Open dumping	2-8	3-10	-	-
Recycling	0-25	5-30	5-50	30-80
Composting	5-30	10-40	20-75	35-90

Source: World Bank (2018). What a Waste 2.0

When expanding collection service areas, improving disposal sites from open dumpsites to controlled landfills, or making other efforts to incrementally improve solid waste management systems, unit costs are vital information for proper decision-making.



# Improvement Needs at Country Level, stated by FP

- In the legal/policy sector, the most common improvements needed are the establishment and revision of **solid waste management laws**.
- In the institutional sector, the most common improvement needed is **capacity improvement**.
- In the technical sector, the most common improvements needed are related to **treatment and recycling**.
- In the financial sector, many countries indicated a need **to secure financing** for implementing solid waste management.
- In the social sector, many countries indicated a need to **improve awareness and education**.

# Improvement Needs at City Level, stated by FP

- In the legal/policy sector, many cities indicated a need to establish or revise **local ordinances**.
- In the institutional sector, many cities indicated a need for the same types of **capacity improvement** indicated at the national level.
- In the technical sector, many cities indicated a need **to improve collection/transportation, recycling/treatment, and final disposal**.  
Meanwhile, **only four cities mentioned the need to improve waste data**.
- In the financial sector, many cities indicated a need to improve **access to financial resources**.
- Few cities indicated any need for improvements in the social sector.

# Towards Improving Solid Waste Management in Africa

- From the view point of waste flow:
  - Waste generation/discharge, collection/transport, intermediate treatment, final disposal
- Cross-cutting issues:
  - Understanding of **waste flow**
  - Understanding of **expenses** and **revenues**
  - Promotion of the collaboration with **the private sector** and **the informal sector**
  - Enhancement of **law implementation**
  - **Personnel development**

# Roles and Direction of Activities of ACCP

- Network strengthening toward more open collaboration
- Gathering/sharing knowledge
- Exploratory efforts to promote investment
- Gathering data and monitoring SDG achievement
- Consolidating the foundation for implementation in Africa

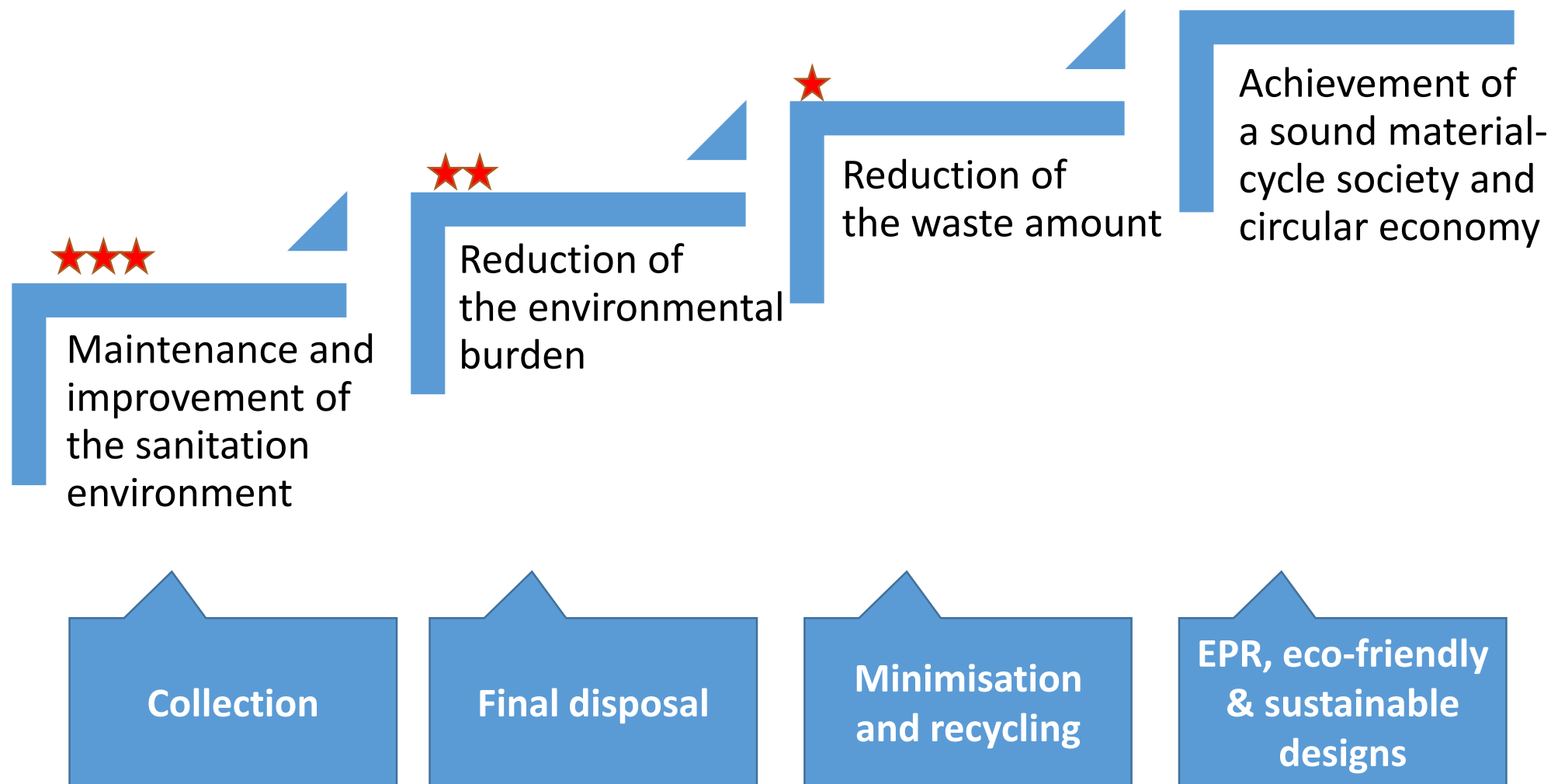
## *Objectives of ACCP*

*(1) Knowledge sharing and networking*

*(2) Promotion of SDGs targets on waste management*

*(3) Promotion of investment in waste management*

# Solid waste management implemented step-by-step



(Red stars mean degree of need for improvement in the SWM of African cities in general.)

# It is important to understand the SWM in each country and each city

- Each region, country, or city has its own unique history, culture, and background regarding waste issues. Waste issues may look similar on the surface, but their characteristics are rooted in different cultures and socio-economic systems. There is no universal solution or panacea.
- The Country Profiles and the City Profiles help ACCP members and other institutions/people involved better understand the current SWM situation in each ACCP member country and city, which leads to further knowledge sharing, improved SWM and healthier life for the residents.

# Acknowledgement

Much of the data presented here is based on information provided by the representatives of ACCP member countries and cities ("Focal Points"). In many member countries and cities, data on waste management remains underdeveloped or uncompiled, while communication also tends to be erratic. We would like to express our appreciation to the focal points and those who assisted in the preparation of the profiles and web questionnaires.

Thank you very much.